AMENDMENTS TO THE CLAIMS

Please amend the claims as shown in the claim listing below, which replaces all previous claim listings.

1.-94. (Canceled)

95. (Currently Amended) A method to quantitate immunoglobulin steroid hormone response inhibitor in a sample comprising:

treating a sample to effectively remove steroid hormones from said sample;

conducting an immunoglobulin steroid hormone inhibition assay by adding the treated sample to a first group of steroid-hormone responsive tumor cells which have been transferred to serum-free media or steroid hormone depleted serum, said cells being from a cultured cell line selected from the group consisting of: T47D; MCF-7A; MCF-7K; ZR-75-1; MTW9/PL2; GH3; GH1; GH4C1; or H-301;

conducting an immunoglobulin steroid hormone inhibition positive control assay by adding a known amount of plasma immunoglobulin selected from the group consisting of plasma IgA or plasma IgM to a second group of said selected steroid-hormone responsive tumor cells which have been transferred to serum-free media or steroid hormone depleted serum;

determining an amount of said added treated sample at which said treated sample inhibits steroid-hormone mediated cell growth in said inhibition assay; and

comparing said amount of said added treated sample to said amount of plasma immunoglobulin added to said positive control assay to quantitate an amount of immunoglobulin steroid hormone response inhibitor in said treated sample.

96. (Previously Presented) A method of detecting inhibition of steroid hormone responsive cell growth wherein the inhibition can be reversed by the steroid hormone, the method comprising:

obtaining at least two samples of identical mucosal epithelial cultured cells;

treating one of said cell samples with purified polymeric IgM;

leaving one of said cell samples untreated with no addition of polymeric IgM;

incubating said cell samples under cell growth promoting conditions;

measuring post-incubation, cell population doublings in the cell samples; and

detecting inhibition of steroid hormone responsive cell growth from a decreased cell population doublings in the cell sample treated with purified IgM compared with the cell sample left untreated.

97. (Previously Presented) A method of detecting inhibition of steroid hormone responsive cell growth wherein the inhibition can be reversed by the steroid hormone, the method comprising:

obtaining at least two samples of identical mucosal epithelial cultured cells;

treating one of said cell samples with purified plasma IgA;

leaving one of said cell samples untreated with no addition of plasma IgA;

incubating said cell samples under cell growth promoting conditions;

measuring post-incubation, cell population doublings in the cell samples; and

detecting inhibition of steroid hormone responsive cell growth from a decreased cell population doublings in the cell sample treated with purified plasma IgA compared with the cell sample left untreated.

98. (Previously Presented) A method to detect estrogenic activity of a substance of interest, the method comprising:

adding an inhibitory amount of purified IgM to at least two samples of a maintained steroid hormone-responsive cancer cell population in a nutrient medium;

adding an amount of the substance of interest to one of the cell samples to yield a test mixture;

designating the cell sample without any added substance of interest as a control mixture;

incubating the cell samples for a period of time under cell growth promoting conditions;

measuring the cell population in the cell samples after the period of time; and

detecting estrogenic activity of the substance of interest from increased cell population doublings in the cell sample treated with the substance of interest compared with the cell sample without any added substance of interest.

99. (Previously Presented) A method to detect estrogenic activity of a substance of interest, the method comprising:

adding an inhibitory amount of purified IgA to at least two samples of a maintained steroid hormone-responsive cancer cell population in a nutrient medium;

adding an amount of the substance of interest to one of the cell samples to yield a test mixture;

designating the cell sample without any added substance of interest as a control mixture;

incubating the cell samples for a period of time under cell growth promoting conditions;

measuring the cell population in the cell samples after the period of time; and

detecting estrogenic activity of the substance of interest from increased cell population doublings in the cell sample treated with the substance of interest compared with the cell sample without any added substance of interest.

100. (Previously Presented) A method to detect estrogenic activity of a substance of interest, the method comprising:

adding an inhibitory amount of purified IgM to at least three samples of a maintained steroid hormone-responsive cancer cell population in a nutrient medium;

adding an amount of the substance of interest to one of the cell samples to yield a test mixture;

adding an amount of estrogen to one of the cell samples to yield a standard mixture;

designating the cell sample without any added substance of interest as a control mixture;

incubating the cell samples for a period of time under cell growth promoting conditions;

measuring the cell population in the cell samples after the period of time; and

detecting estrogenic activity of the substance of interest from a significant increase in cell population doublings in the test mixture and the standard mixture compared with the control mixture.

101. (Previously Presented) A method to detect estrogenic activity of a substance of interest, the method comprising:

adding an inhibitory amount of purified IgA to at least three samples of a maintained steroid hormone-responsive cancer cell population in a nutrient medium;

adding an amount of the substance of interest to one of the cell samples to yield a test mixture;

adding an amount of estrogen to one of the cell samples to yield a positive control mixture;

designating the cell sample without said substance of interest or estrogen as a negative control mixture;

incubating the cell samples for a period of time under cell growth promoting conditions;

measuring the cell population in the cell samples after the period of time; and

detecting estrogenic activity of the substance of interest from a significant increase in cell population doublings in the test mixture and the standard mixture compared with the control mixture.

102. (Previously presented) The method of claim 95 wherein said cells are further selected from the group of cell lines consisting of T47D, MCF-7A, MCF-7K or ZR-75-1.

103. (Previously presented) The method of claim 102 wherein said cells are from the T47D cell line.

104. (Previously presented) The method of claim 102 wherein said cells are from the ZR-75-1 cell line.

105. (Previously Presented) The method of claim 102 wherein said cells are further selected from the group consisting of the MCF-7A and MCF-7K cell lines.

106. (Previously presented) The method of claim 95 wherein said cells are from the MTW9/PL2 cell line.

107. (Previously presented) The method of claim 95 wherein said cells are further selected from the group of cell lines consisting of GH1, GH3 and GH4C1.

108. (Previously presented) The method of claim 107 wherein said cells are from the GH4C1 cell line.

109. (Previously presented) The method of claim 95 wherein said cells are from the H-301 cell line.